

## **[1] GAMING BONUS DEVICE AND METHOD OF USE**

### **[2] CROSS REFERENCES TO RELATED AND CO-PENDING APPLICATIONS**

5    [3] This application is a continuation of U.S. patent application serial number  
09/967,055, filed September 28, 2001. That application claims priority to U.S.  
provisional patent application serial number 60/241,384, filed October 17, 2000 and  
entitled, "Gaming Bonus Device and Method of Use." The contents of these  
applications are hereby expressly incorporated by reference in their entireties.

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### **[4] BACKGROUND OF THE INVENTION**

#### **[5] Field of Invention**

[6] The present invention relates to gaming devices and method of using the same. In  
particular, it relates to a device for displaying a bonus.

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#### **[7] Description of Related Art**

[8] Various bonus systems for use with gaming devices are known in the field of  
gaming. U.S. patent number 6,059,289, issued to *Vancara*, discloses a method for  
playing a bonus game in a secondary slot machine adjacent to a primary slot machine.

20    The primary slot machine issues a bonus-qualifying signal to the secondary slot  
machine to start play of a bonus game when a bonus qualifying event occurs. After  
the random spin on the secondary slot machine, the values or value play symbols are  
accumulated into an accumulated winning value until the end of the bonus game  
occurs. U.S. patent numbers 5,823,874 and 5,848,932, issued to *Adams*, disclose slot  
25    casino games incorporating a single play bonusing feature where a rotating wheel is

activated by the player depressing a bonus spin button when certain indicia appear on the reels of a slot game. U.S. patent number 5,393,057, issued to *Marnell II*, discloses an electronic gaming apparatus and method therefore wherein each play in the bonus is the result of successive underlying game play.

5. [9] Players of gaming apparatus typically find it enjoyable to have a variety of different forms of gaming apparatus available. Gaming machines that are more interesting generate more player excitement and in turn are played longer resulting in more revenue for the game operator. In addition, games that are more visually appealing generate more player interest. Generally, bonus prizes are offered in such  
10 games in order to increase the excitement and enjoyment experienced by players. This attracts more players to the game and encourages players to play longer. When gaming devices attract more players and the players play longer, they tend to be more commercially successful relative to other gaming devices.

[10] Display devices are utilized on gaming devices in order to attract players. Once  
15 players are attracted to the gaming device, they tend to play longer because the display device enhances the stimulation and excitement experienced by players. It is, therefore, desirable for gaming devices to incorporate highly visible display devices.

[11] Display devices tend to be more successful if they utilize physical objects rather than simulations. Although video devices and electronic signs can be used for display  
20 devices, players are more attracted to display devices that utilize physical objects.

Physical objects can be even more effective display devices if they are moveable and they are used in combination with lights and sounds.

[12] Unfortunately, the similarity of gaming machines poses a problem for gaming machine manufacturers in differentiating their machines from competitors. Adding a

bonus game to a base game can add differentiation to the game and add more variety to the game.

[13] A current unmet need exists for a bonus gaming device that provides game players with a more exciting and desirable gaming experience and that is visually appealing.

[14] An unmet need exists for a bonus gaming device that is enjoyable to play and results in longer play times and revenues for the gaming operator.

### [15] SUMMARY OF THE INVENTION

#### [16] Advantages of the Invention

[17] An advantage of the present invention is that it provides a bonus gaming device that adds to player excitement and satisfaction.

[18] Another advantage of the present invention is that it provides a bonus gaming device that is visually appealing

[19] A further advantage of the present invention is that it provides a method of playing a bonus game that holds and attracts player interest.

[20] An additional advantage of the present invention is that it provides a bonus gaming device that is easily added to a primary game.

[21] An additional advantage of the present invention is that it provides a bonus gaming device that is readily understood by players and yet is interesting.

[22] A further advantage of the present invention is that it provides a bonus gaming device that includes a bonus multiplier to increase the bonus.

[23] An additional advantage of the present invention is that it provides a bonus gaming device that allows the game player to select the winning outcome.

[24] These and other advantages of the present invention may be realized by reference

to the remaining portions of the specification, claims, and abstract.

**[25] Brief Description of the Invention**

[26] The present invention comprises a gaming bonus device for use in a gaming  
5 system including a primary gaming device that generates a bonus-qualifying event. A  
bonus game acts in response to the bonus-qualifying event. The bonus game  
generates and displays one or more binary symbol outcomes entitling a player to a  
predefined payout issued to a player when the player wins depending upon the number  
of similar binary symbol outcomes displayed. The binary symbols are three spinning  
10 coins, each having a head and a tail side, which are associated with the primary  
gaming device and are selectively spun and shown. A multiplier random number  
generator is associated with the bonus game and automatically selects a multiplier for  
the payout issued to a player when the player wins. The player can be allowed to  
select a winning outcome.

15 [27] The above description sets forth, rather broadly, the more important features of  
the present invention so that the detailed description of the preferred embodiment that  
follows may be better understood and contributions of the present invention to the art  
may be better appreciated. There are, of course, additional features of the invention  
that will be described below and will form the subject matter of claims. In this  
20 respect, before explaining at least one preferred embodiment of the invention in detail,  
it is to be understood that the invention is not limited in its application to the details of  
the construction and to the arrangement of the components set forth in the following  
description or as illustrated in the drawings. The invention is capable of other  
embodiments and of being practiced and carried out in various ways. Also, it is to be  
25 understood that the phraseology and terminology employed herein are for the purpose

of description and should not be regarded as limiting.

## **[28] BRIEF DESCRIPTION OF THE DRAWINGS**

[29] Figure 1 is substantially a preferred embodiment of a bonus gaming device.

5 [30] Figure 2 is substantially an exploded view of the bonus gaming device of figure 1.

[31] Figure 3 is substantially another preferred embodiment of the bonus gaming device.

10 [32] Figure 4 is substantially another preferred embodiment of the bonus gaming device.

[33] Figure 5 is substantially a schematic flow diagram of a bonus gaming method.

[34] Figure 6 is substantially a detailed flowchart of the bonus gaming method.

[35] Figure 7 is substantially a flowchart of an alternative embodiment of the bonus gaming method.

15 [36] Figure 8 is substantially a flowchart of another embodiment of the bonus gaming method.

[37] Figure 9 is substantially a flowchart of another embodiment of the bonus gaming method.

20 [38] Figure 10 is substantially a flowchart of another embodiment of the bonus gaming method.

### **[39] DESCRIPTION OF THE PREFERRED EMBODIMENT**

[40] In the following detailed description of the preferred embodiments, reference is made to the accompanying drawings, which form a part of this application. The drawings show, by way of illustration, specific embodiments in which the invention may be practiced. It is to be understood that other embodiments may be utilized and structural changes may be made with out departing from the scope of the present invention.

[41] Figure 1 is a preferred embodiment of the gaming device 10. It has a primary gaming device 14 shown as an electronic slot machine. Gaming device 14 generates a bonus-qualifying event on the reel strip 16 of the slot machine. The bonus event can be almost any predetermined event and can be internal or external to the game. A bonus game 12 is mounted on top of the primary gaming device 14 and acts in response to the bonus-qualifying event. The bonus game can be a random binary generator. The bonus game 12 randomly spins and displays three binary outcomes. The binary outcomes can be quarters 18 to give a heads or tails outcome. Other binary outcomes are possible to use such as Xs or Os, colors or shapes. Bonus game 12 can select the winning outcome or the player may be allowed to select the winning outcome. The bonus game entitles a player to a predefined payout when the player wins depending upon the number of similar heads or tails to the winning outcome. The quarters 18 are shown on a display 15.

[42] The three spinning coins 18, each having a head and a tail face, are mounted on top of and associated with the slot machine 14 and selectively spun. The coins 18 are mounted above poles 17 and could be spun by an attached electric motor or solenoid.

When the bonus-qualifying event occurs on the slot machine reel 16, the bonus game

is activated. A patron then presses either a “heads” button 20A or a “tails” button 20B, located on the bonus game 12 in order to select the winning outcome.

Thereafter, the three (3) coins 18 in the bonus game 12 will begin to spin. Depending upon the number of heads vs. tails and the patron’s selection, the patron is entitled to a base award. The award is displayed on win meter 19. For example, if the patron selects heads and of the three (3) coins spinning in the top box, two (2) of them are displaying heads, the patron will be entitled to a bonus award of 25 coins as shown in figure 2 of the attached drawings. While, three coins 18 were shown, the game could also be played with 1, 2 or more than three coins 18. For example, if the game were played with one coin, the player would win a pre-defined bonus if his selection of heads or tails matched that displayed by coin 18.

[43] The outcomes are combinations of heads or tails, odds or evens, “Xs” or “Os,” different colors or geometric shapes, entitling a player to a predefined payout when the player wins depending upon the number of similar binary outcomes elected and displayed. Although the following discussion focuses on coins with head and tail outcomes, any binary outcome either/or symbols, colors, or shapes could be used instead, depending upon the theme desired.

[44] If the game player does not press button 20A or 20B, the quarters will automatically spin after a period of time and the bonus game will select the winning outcome. The bonus game may also include a delay-activated switch 25, which allows a player the opportunity to activate the bonus game 12 before it is automatically activated. The bonus is shown on a bonus meter 52.

[45] An optional feature of the gaming bonus device includes a multiplier random generator (not shown) associated with the bonus game 12, which automatically selects a multiplier for the payout issued to a player when the player wins. Once the coins

stop spinning and the patron's base award is displayed, a random number generator automatically selects the multiplier by which the base bonus will be multiplied to determine the bonus to be awarded to the patron. For instance, if the patron receives two (2) heads, this would entitle the player to a base award of 25 coins. If the 4X multiplier bonus indicator 21 lights up as shown in figure 1, the game player is awarded a total prize of 100 coins, which would be displayed on the win meter embodiment shown in figure 3. Several bonus multiplier indicator lights 21 are mounted around display 15 of gaming device 10 and light up to show the multiplier amount that is generated by the multiplier random number generator. The multiplier can be indicated on a multiplier meter 53 and the total prize won on total prize meter 54. If the selected multiplier is zero, a consolation prize can be awarded. Playing for the multiplier may also be repeated a number of times.

[46] Figure 2 shows another embodiment of the invention in bonus game 30. Figure 2 is similar to figure 1, except the multiplier bonus lights 21 are replaced by extra coin indicator lights 23. Instead of awarding a multiplier bonus, a pre-determined amount of extra coins are awarded as an extra bonus to the game player. Indicator lights 23 light up to show the winning amount of extra coins. The gaming bonus device 30 may include a changing sign display 22 having a similar theme, such as a large changing face Quarter, to entertain the player during the game.

[47] Turning now to figure 3, another embodiment of the bonus game is shown. Bonus game 40 is similar to figure 2, except that fewer payout possibilities 41 are shown and the payout possibilities are shown inside a square shape instead of a circle shape. Decorative quarters 42 are also added around the periphery of the game to provide a more attractive display.



[48] Turning now to figure 4, another embodiment of the bonus game is shown.

Bonus game 50 is similar to figure 2, except the multiplier payout possibilities are not shown. In bonus game 50, the spinning coins 18 are located below the changing sign display 22.

5 [49] The gaming bonus device may employ either mechanical or electrical secondary binary outcome random number generators, or a combination thereof, which generate three bi-modal displays. While the bonus game embodiments have been shown using physical coins that are spun. The bonus game could also be implemented using a video screen.

10 [50] A controller would drive the video screen to selectively show, spin and stop the three spinning coins. Other binary symbols could also be displayed on the video screen such as colors or Xs and Os.

[51] Referring to figure 5, a schematic flow diagram 60 of the bonus gaming method of the present invention is shown. The method entails allowing a player to play a  
15 game on a primary gaming device at step 62. During the play of the game, a bonus-qualifying event may occur at step 64. A bonus game 12 is then activated in response to the bonus signal to generate and display at least one binary outcome at step 66.

Bonus game 12 also selects a winning outcome. The player is then paid a predefined payout when the player wins depending upon the number of similar binary outcomes  
20 to the winning outcome displayed at step 68.

[52] Referring to figure 6, a detailed flowchart 70 of a bonus gaming method is shown. A game player initiates game play at step 72 by depositing coins or tokens into primary game 14. The game player plays a game on the primary game at step 74. The primary game 14 generates a bonus-qualifying event 16. At decision step 76, the  
25 game checks to see if the bonus-qualifying event or signal has occurred. If the bonus-

qualifying event has not occurred, the game loops back to step 72 to allow the player the opportunity to place another wager and play the primary game again. If the bonus-qualifying event has occurred at step 76, the game proceeds to step 80. At step 80, the player is queried to select one of the either/or binary outcomes such as heads or tails.

5    Next, at step 82, bonus game 12 is then activated to generate and display the three either/or binary heads or tails outcomes. Next, at step 84, the game player is paid a predefined payout depending upon the number of similar binary outcomes displayed to the selected binary outcome, which would be referenced in a payout table.

[53] Referring to figure 7, a detailed flowchart 90 of another embodiment of the  
10    bonus gaming method is shown. A game player initiates game play at step 92 by depositing coins or tokens into primary game 14. The game player plays a game on the primary game at step 94. The primary game 14 generates a bonus-qualifying event 16. At decision step 96, the game checks to see if the bonus-qualifying event is generated. If the bonus-qualifying event is not generated, the game loops back to step  
15    92 to allow the player the opportunity to place another wager and play the primary game again. If the bonus-qualifying event is generated at step 96, the game proceeds to step 100. At step 100, the player is queried to select one of the either/or binary outcomes. Next, at step 102, the bonus game generates and displays the three either/or binary heads or tails outcomes. Next, at step 104, the base bonus award is  
20    displayed. The game then proceeds to step 106 where a multiplier is generated. Next, at step 108, the base bonus is multiplied by the multiplier, displayed and paid. The base bonus depends upon the number of similar binary outcomes displayed, which would be referenced in a payout table.

[54] Referring to figure 8, a detailed flowchart 120 of another embodiment of the  
25    bonus gaming method is shown. A game player initiates game play at step 122 by

depositing coins or tokens into primary game 14. The game player plays a game on the primary game at step 124. The primary game 14 generates a bonus-qualifying event 16. At decision step 126, the game checks to see if the bonus-qualifying event is generated. If the bonus-qualifying event is not generated, the game loops back to

5 step 122 to allow the player the opportunity to place another wager and play the primary game again. If the bonus-qualifying event is generated at step 126, the game proceeds to step 128 where a bonus award is selected. At step 130, the player decides whether to keep the bonus award or to play for a multiplier to be multiplied by the bonus award to provide another total prize. If the player decides to keep the bonus

10 award, the game proceeds to step 140 where the bonus award is paid. If the player decides to play for a multiplier, the game proceeds to step 132 where the player is queried to select one of the either/or binary outcomes as a winning outcome. Next, at step 134, the bonus game generates and displays the either/or binary heads or tails outcomes. Preferably three coins are used, however, 1, 2 or more than 3 could be

15 used. Next, at step 136, the multiplier is determined; the multiplier is proportional to the number of correct heads or tails that match the player's selection. For example, if the player selected heads and one coin 18 resulted in a head, the multiplier could be one. At step 142, the multiplier is compared to see if it is equal to zero. If the multiplier is equal to zero, the game proceeds to step 144 where a consolation prize is

20 awarded to the game player. The game then returns to step 122 to allow the player to play the primary game again. If the multiplier is not equal to zero, the game proceeds to step 138. At step 138, the bonus award is multiplied by the multiplier to obtain a total prize and is displayed and paid. The game then returns to step 122 to place another wager.

[55] Referring to figure 9, a detailed flowchart 160 of another embodiment of the bonus gaming method is shown. A game player initiates game play at step 162 by depositing coins or tokens into primary game 14. The game player plays a game on the primary game at step 164. The primary game 14 generates a bonus-qualifying event 16. At decision step 166, the game checks to see if the bonus-qualifying event is generated. If the bonus-qualifying event is not generated, the game loops back to step 162 to allow the player the opportunity to place another wager and play the primary game again. If the bonus-qualifying event is generated at step 166, the game proceeds to step 168 where a bonus award is selected. At step 170, the player decides whether to keep the bonus award or to play for a multiplier to be multiplied by the bonus award to provide another total prize. If the player decides to keep the bonus award, the game proceeds to step 182 where the bonus award is paid. The game then returns to the place wager at step 162. If the player decides to play for a multiplier, the game proceeds to step 172 where the player is queried to select one of the either/or binary outcomes as a winning outcome. Next, at step 174, the bonus game generates and displays the either/or binary heads or tails outcomes. Preferably three coins are used, however, 1, 2 or more than 3 could be used. Next, at step 176, the multiplier is determined; the multiplier is proportional to the number of correct heads or tails that match the player's selection. For example, if the player selected heads and one coin resulted in a head, the multiplier could be one. At step 184, the multiplier is compared to see if it is equal to zero. If the multiplier is equal to zero, the game proceeds to step 186 where a consolation prize is awarded to the game player. The game then returns to step 162 to allow the player to play the primary game again. If the multiplier is not equal to zero, the game proceeds to step 178.

[56] Next, at step 178, the bonus award is multiplied by the multiplier to obtain a total prize and is displayed. The game then proceeds to decision step 180, where the game player is allowed to choose between playing for a multiplier again or to accept the total prize. If the player decides to keep the total prize, the game proceeds to step 5 182 where the total prize is paid. The game then returns to the place wager at step 162. If the player decides to play again for a multiplier, the game proceeds to step 172 where the player is queried to select one of the either/or binary outcomes as a winning outcome and steps 174, 176, 178 and 180 are repeated.

[57] Referring to figure 10, a detailed flowchart 200 of another embodiment of the 10 bonus gaming method is shown. Flowchart 200 allows a game player to replay for the multiplier. If the player correctly repeats playing for a multiplier a predetermined number of times, the player is awarded a progressive jackpot. A game player initiates game play at step 162 by depositing coins or tokens into primary game 14. The game player plays a game on the primary game at step 164. The primary game 14 generates 15 a bonus-qualifying event 16. At decision step 166, the game checks to see if the bonus-qualifying event is generated. If the bonus-qualifying event is not generated, the game loops back to step 162 to allow the player the opportunity to place another wager and play the primary game again. If the bonus-qualifying event is generated at step 166, the game proceeds to step 168 where a bonus award is selected.

20 [58] At step 170, the player decides whether to keep the bonus award or to play for a multiplier to be multiplied by the bonus award to provide another total prize. If the player decides to keep the bonus award, the game proceeds to step 182 where the bonus award is paid. The game then returns to the place wager at step 162. If the player decides to play for a multiplier, the game proceeds to step 172 where the player 25 is queried to select one of the either/or binary outcomes as a winning outcome. Next,

at step 174, the bonus game generates and displays the either/or binary heads or tails outcomes. Preferably three coins are used, however, 1, 2 or more than 3 could be used. Next, at step 176, the multiplier is determined. The multiplier is proportional to the number of correct heads or tails that match the player's selection. For example, if  
5 the player selected heads and one coin 18 resulted in a head, the multiplier could be one. At step 184, the multiplier is compared to see if it is equal to zero. If the multiplier is equal to zero, the game proceeds to step 186 where a consolation prize is awarded to the game player. The game then returns to step 162 to allow the player to play the primary game again. If the multiplier is not equal to zero, the game proceeds  
10 to step 178.

[59] Next, at step 178, the bonus award is multiplied by the multiplier to obtain a total prize and is displayed. The game then proceeds to decision step 202. At decision step 202 the number of times that the multiplier has been played for is compared to a predetermined number. If the number of times that the multiplier has  
15 been played is equal to the predetermined number, the game proceeds to step 204 where a progressive jackpot is awarded. The jackpot won is shown on total prize meter 54. The game then returns to step 162. If the number of times that the multiplier has been played is not equal to the predetermined number, the game proceeds to step 180. At decision step 180, the game player is allowed to choose  
20 between playing for the multiplier again or to accept the total prize. If the player decides to keep the total prize, the game proceeds to step 182 where the total prize is paid. The game then returns to the place wager at step 162. If the player decides to play again for a multiplier, the game proceeds to step 172 where the player is queried to select one of the either/or binary outcomes as a winning outcome and steps 174,  
25 176, 178, 180 and 202 are repeated. The progressive jackpot can be linked to the

correct number of binary outcomes selected by the player during the multiplier bonus rounds.

## **[60] CONCLUSION**

5   **[61]** The present invention solves many of the problems associated with the prior art. The present invention provides a gaming device that generates player interest and excitement resulting in longer game play. The present invention provides a method of playing a bonus game that is visually appealing and that holds the attention of game players. The present invention provides a bonus gaming device that is easily added to  
10   a primary game.

**[62]** Although the description above contains many specifications, these should not be construed as limiting the scope of the invention but as merely providing illustrations of some of the presently preferred embodiments of this invention. Thus, the scope of the invention should be determined by the appended claims and their  
15   legal equivalents rather than by the examples given.